

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/18616

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B 64 D 47/00

US CL : 244/1R,1TD,121,129.1; 273/260-361; 89/1.11,1.14; 102/336; 342/6,9

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 244/1R,1TD,121,129.1; 273/260-361; 89/1.11,1.14; 102/336; 342/6,9

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
NONE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3338147 A (GODDARD) 29 AUGUST 1967 (29.08.1967) FIGURE 1	-
A	US 4607849 A (SMITH ET AL) 26 AUGUST 1986 (26.08.1986) FIGURES 1 AND 3	-
Y	US 5269132 A (LOUCKS) 14 DECEMBER 1993 (14.12.1993) FIGURES 1,3	4-6,13-20
A	US 6055909 A (SWEENEY) 02 MAY 2000 (02.05.2000) FIGURES 2-3	-
A	US 6231003 (HIBMA ET AL) 15 MAY 2001 (15.05.2001) ABSTRACT AND FIGURE 4	-
X	US 6571714 B1 (BRUM ET AL) 03 JUNE 2003 (03.06.2003) FIGURES 1-4	1-3,7,9,11,12
Y		4-6,8,10,13-20

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

15 September 2005 (15.09.2005)

Date of mailing of the international search report

14 OCT 2005

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US

Commissioner for Patents

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